

Ayon Roy

CSE Graduate

<https://ay-on-roy.github.io/Portfolio/>

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Summary

I am a detail-oriented professional and a graduate in CSE from BRAC University. Experienced as an Adjunct Lecturer as well as a Student Tutor in my university, where I help students in object oriented programming and problem-solving including robotics. Passionate about Artificial Intelligence, Large Language Model, Natural Language Processing, integrating Cyber Security and Robotics. Academic eight group-based projects and professional three group projects strengthened my collaboration and leadership skills. Enthusiast to continuous learning and contributing to impactful innovations.

Skills

- **Web Language:** HTML5 (Skilled), CSS(Good), React (Fair), Django (Fair), PHP (Good)
- **Database:** MySQL (Proficient), PostgreSQL (Fair)
- **Programming Language:** Python (Skilled), Java (Good), C (Good), Assembly (Fair)
- **Machine Learning:** Numpy, Pandas, Scikit-learn, Pytorch, Tensorflow, Keras, KNN, CNN, SARIMA, Prophet, LSTM, BiLSTM, BERT (mT5), BLEU, Transformer, TFT (All Proficient).

Professional Experience

- Adjunct Lecturer** July 2025 - Present
Computer Science and Engineering Department, **BRAC University**
-> Courses teaching: Object Oriented Programming & Introduction to Robotics
- Digitalyst Internship, Radio Service Management** May 2025 - July 2025
Tigers Den, Banglalink Communication Ltd
-> Worked on service automation team
-> Key Technologies: Python, Flask Api, PHP, JS
- Intern, Information Technology** March 2025 - April 2025
Head Office, **NCC Bank PLC.**
-> Worked on a Fraud Detection System with the ML team.
-> Worked on Application Development Team (Indexing & Application Development).
- Internship, Data Visualization Associate** March 2025 - April 2025
Online, **Excelerate** (Dubai | USA, About: <https://4excelerate.org/about-us/>)
-> Worked with global students on different data visualization techniques (e.g., Looker Studio).
- Student Tutor** May 2023 - September 2024
Computer Science and Engineering Department, **BRAC University**
- Programming Language 1 May 2023 - September 2023
- Discrete Mathematics October 2023 - September 2024
-> Helped students in their programming basics and logic building.
-> Worked with faculties to check quiz scripts and make student's grade sheets.

Thesis Details

NLP - Advancing Bangla Machine Translation Through Informal Datasets

- Pytorch, Tensorflow, Keras, LSTM, BiLSTM, BERT (mT5-large), BLEU

Research Interest

Artificial Intelligence, Large Language Model, Natural Language Processing integrating Cyber Security.

Education

- i. **Bachelor of Computer Science and Engineering (BSc in CSE),**
BRAC University October 2020 - October 2024 | **CGPA: 3.9**
- ii. **Higher Secondary School Certificate (HSC),**
Cumilla Victoria Government College 2019 | **GPA: 4.83**
- iii. **Secondary School Certificate (SSC),**
Cumilla Modern High School 2017 | **GPA: 5.00**

Academic Projects

1. **GadgetEarth:** An e-commerce platform (React & Django)
2. **USIS Routine Generator:** University Routine Generator (HTML, CSS, MySQL, JS)
3. **Intercity Transit System:** Bus Ticketing Service (HTML, CSS, MySQL, JS)
4. **Online Payments Fraud Detection:** Classify fraud in online transactions
5. **Detecting Sarcasm in English:** Classification slang and sarcasm in sentences
6. **Blind Stick with Morse Code Response & GSM:** Using Arduino & different Sensors
7. **Snake Game:** Using basic OOP principles
8. **Bowling Game Model:** Graphics game (Pygame)
9. **Water Level Indicator:** Using 3-8 Decoder

Industrial Projects

1. **Busy Hour Traffic Prediction** with the Frontend using HTML, CSS and Flask
 - a. Collect data from scheduler and take consider input months of datum
 - b. Always data cleaned properly before feeding in the model
 - c. Use SARIMA to predict Busy Hour Traffic for tomorrow
 - d. In the frontend there have multiple filter options before staring prediction

Impact: By setting the right number of Erlangs and lines, and managing traffic based on predictions, we can prevent call drops during busy hours with around 80% accuracy. This not only improves service quality but also helps save company resources, keeping overall costs low.

2. **Fluctuating Cell Detection and Acknowledge the Responsible** using Python
 - a. Python bash script runs the program in every 6 hours that also collect realtime data from the server
 - b. Data clean properly and merge all the cell information in a master table
 - c. Check times of fluctuations, total inactive time, starting and ending fluctuating time and rise flag according to the threshold avoiding permanent inactive cells
 - d. Generate email to the responsible to fix the problem with all details

Impact: If a cell starts to fail, it can be detected within six hours, so action can be taken quickly and often before any customer even notices a problem. At the same time, customer support gets the report, so they can reach out and let the affected customer know what's going on. This not only improves the customer experience but also saves money by avoiding unnecessary investigations and site visits.

3. **TWAMP KPI Dashboard** using HTML, CSS, and Flask
 - a. Take data from the server and clean them according to the requirements
 - b. Can filter data by District, Police station, Site Name, Vendor

- c. Can see graphs daily, weekly or monthly basis
- d. Can use multiple filter which automatically generate graphs of them

Impact: The dashboard makes it easy to monitor traffic and latency, giving a clear visual overview of key metrics. This helps teams quickly understand performance and makes presenting the information much simpler.

4. **Customer Complain Location Sorting Tool** using Python (Regex)

- a. Find Google Earth Latitude, Longitude from the huge paragraph
- b. Avoid multiple and invalid latitude longitude information
- c. Create columns with them for easy access
- d. Create new file with area wise complain number

Impact: This tool makes it easier to handle customer complaints by pulling out accurate location details and organizing them neatly and creates a file that shows how many complaints came from each area, helping teams to respond more efficiently, and save time on manual work.

Extracurricular Activities

- i. General member at BUCC (BRAC University Computer Club)
- ii. Volunteer at BYSO

Certifications

- i. HP life certified **Effective Leadership**
- ii. DataCamp certified **Data Analysis in Excel**
- iii. Simplilearn certified **Introduction to MS Excel**
- iv. Great Learning Academy certified **Selenium Basics**
- v. Udemy certified **Data Privacy and Protection Auditor (CDPPA)**

Languages

- | | |
|------------|----------------|
| 1. English | Fluent |
| 2. Bangla | Native |
| 3. Hindi | Conversational |

Hobbies

- i. Riding Bicycle
- ii. Traveling

References

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Signature



Ayon Roy